Arch Sex Behav (2014) 43:1491–1501
DOI 10.1007/s10508-014-0382-3

ORIGINAL PAPER

Gender Identification and Sex Reassignment Surgery in the Trans Population: A Survey Study in France

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Received: 29 March 2012 / Revised: 29 July 2014 / Accepted: 29 July 2014 / Published online: 18 September 2014
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Abstract Drawing from controversies between medical, legal, and associative actors about the obligation of sex reassignment surgeries (SRS) for people who intend to change their civil status, this article discusses the role that medical procedures, and particularly SRS, play in contemporary gender identifications and transition pathways in France. In 2010, the French National Institute of Health and Medical Research conducted a national survey in order to study the sociodemographic characteristics, access to medical, and psychological care, and state of health among trans individuals. After a long period of ethnographic work during which a partnership was established with trans actors to map the social, medical, and political landscape of trans communities, a questionnaire was developed and distributed between July and October 2010 in collaboration with most of the trans organizations and public and private health professionals operating in France. Overall, 381 self-identified trans individuals returned the anonymous self-administered questionnaire. The results highlighted the heterogeneity of the trans population, whose definition cannot be reduced to a group of individuals undergoing standardized hormonal treatments and SRS. Two central indicators, sex assigned at birth and gender self-identification, enabled us to describe and analyze different medical and legal pathways with a particular focus on SRS, which is often compulsory for a change of civil status in France. Although SRS remains an important factor in an individual's subjective evaluation of the success of the transition pathway, its practice varies depending on one's sex assigned at birth and gender identification.

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Keywords Gender identity disorder · Transsexualism · Transgender · Gender · Sex reassignment surgery

Introduction

Based on Harry Benjamin's assumption that the demand for sex reassignment surgery (SRS) defined the "transsexual syndrome" (Benjamin, 1966; Green & Money, 1969), Hausman (1992) argued that this request, which was related to advances in medical technologies, contributed to constructing the "subjectivity" of transsexual individuals. Hausman used the example of the extensive media coverage of the case of George/Christine Jorgensen (Jorgensen, 1967), who underwent SRS successfully in 1952 in Copenhagen (Hamburger, Stürup, & Dahl, 1953). Hausman argued that this case contributed to the popularity and further development of these medical and surgical technologies as well as to reinforcing the claims of the trans communities with regard to access to care and the recognition of their identities (Meyerowitz, 2002). Hirschauer (1997) added that SRS constitutes a social and historically situated response that has reinforced the centrality of the genitalia in definitions of gender. By making the surgical modification of genitalia possible and effective, medicine has favored a particular form of "gender migration" based on a dimorphic paradigm of sex.

In a more recent sociological work, Ekins and King (2006) provided another picture of what they call the "process of transgendering." They took into account the diversity of gender identifications, using the term "transgender" (Feinberg, 1992) as an umbrella notion. The concept of "transgender" appeared also as a very useful tool from an activist and political perspective (Davidson, 2007). Valentine (2007) moved beyond the use of the term "transgender," which does not include all the individual subjectivities and alternative gender identifications. Valentine suggested the use of the concept of "trans" to capture all the

diversity of the trans identifications, including the differences between transsexual and transgender individuals. Focusing on the diversity of trans pathways, Ekins and King (2006) and Valentine (2007) observed a decline in the importance of SRS among many subgroups of the trans population and, more generally, of the centrality of the genitalia in the "process of transgendering."

Given this context, it seems difficult to maintain that "successful treatment of gender dysphoria through sex reassignment seems relatively uncontroversial" (Drescher, 2010, p. 439), except if one has a very narrow definition of "gender dysphoria." Controversies about the status and function of medical procedures, and particularly of SRS, are increasing in various countries. These controversies involve a variety of actors, from the medical and public health institutions and the legal system (Michels, 2008) to transgender activist individuals and organizations. These individuals and groups were directly or indirectly involved and consulted in debates concerning the redefinition of diagnostic categories in the DSM-IV-TR and the ICD-10 and the medical and juridical protocols (Drescher, 2014; Zucker, 2010).

Currently, in France, the official medical protocol (Haute Autorité de Santé, 2009) established for the transition pathways requires the production of a psychiatric certificate testifying that the individual does indeed "suffer" from "gender identity disorder" (GID).[1] The acquisition of this certificate requires 2 years of psychiatric follow-up and a "real life" test. It is only after the prescription of this certificate that an individual may undergo hormonal and surgical treatments (which may or may not include genital surgery and hysterectomy) and benefit from their coverage under health insurance schemes. Then, after having performed this complete transition pathway, i.e. including SRS (or at least hysterectomy for the female-to-male [FtM]), an individual may request a change in civil status through the courts.

As such, these transition pathways are framed by complex interactions between the medical institution (which brings into play a diverse range of medical disciplines, including psychiatry, endocrinology, and surgery), the legal system and, in some cases, activist organizations (Hayet & Dahan, 2011). These official medical and legal requirements are currently the subject of much controversy. They are considered by certain trans associations and also by international political bodies as violations of human rights, as they limit an individual's rights over their own body (Commissioner for Human Rights, 2009).

Nevertheless, this situation is changing slowly since local courts are starting to approve applications for a change in civil status for individuals who did not undergo SRS (Michels, 2008). Moreover, a misunderstanding occurred in France in 2011 when the Ministry of Health decided that "transsexualism" would no longer be classified in the category of "mental disorder" for eligibility for reimbursement through medical insurance, but as an "hors liste" (unspecified) disease. This minor administrative measure had an enormous symbolic and political impact. It was globally interpreted as a "depsychiatrization of transsexualism." But at the same time, since the French public health system is based on the World Health Organization International Classification of Disease, physicians were required to continue to use the ICD-10 code F64 (Gender Identity Disorder) in their computer applications (Giami, 2012). We find ourselves in a context where the official medical requirements are being challenged by some public institutions and some activist organizations, which demonstrate an absence of consensus between the parties involved in this field.

These continuing controversies put into question the central role that has in the past been attributed to SRS in the diagnosis and treatment of GID or transsexualism. More generally, it also puts into question the role of genitalia in the definition of gender identity (Burke, 2011). What was initially analyzed by Hausman and Hirschauer as a request constitutive of a "transsexual syndrome" now takes the form of a complex medical demand from some individuals or a medical and legal obligation. This obligation has the effect of forcing some trans individuals who do not desire sex reassignment surgeries to undergo them and, at the same time, it raises obstacles for those who would like to perform it (Ventura & Schramm, 2009).

In order to understand this complex situation and the conditions in which trans individuals can have access or not to medical and surgical treatment, it was necessary to describe the characteristics of the trans population in France in order to establish the diversity of profiles under the umbrella of the concept of trans and to explore empirically the status of SRS and medical procedures in the process of gender transition.

This article presents an overview of the current situation of the trans population in France, based on the results of the "Trans and Sexual Health" survey conducted in 2010 on a sample of the population identifying as "trans."[2] The study describes the internal diversity of the trans population from a sociological perspective. Based on the results we present here, our central objective is to identify the function of SRS in

[1] Although the DSM-5 has introduced the new diagnostic term of Gender Dysphoria in May 2013, this article maintains the use of the term Gender Identity Disorder since the study was carried out before May 2013. Because the ICD-10 is still under revision, this article will maintain the use of "transsexualism" still in use in social security and medical insurance documents in France.

[2] "Trans" is a general term including transsexual, transgender, and transidentity individuals and all other expressions of gender mobility. This simple prefix is used here to avoid taking sides in the debate between the proponents of the medical category "transsexual" or "gender identity disorder" and "gender dysphoria" and those of the categories that come from the population being studied, such as "transgender" or more recently "transidentity." The reasoning behind this neutral terminology is that it permits each individual to recognize themselves in the targeted population and therefore to obtain responses from different "profiles" of participants (Giami & Le Bail, 2011; Valentine, 2007).

trans pathways of transition and to analyze the psychosocial factors influencing the realization of such an operation and the role that SRS plays in contemporary trans identifications in France (Giami & Le Bail, 2011).

This survey was based on the hypothesis that the trans population is heterogeneous. Its internal diversity remains poorly documented by epidemiological, demographic, and behavioral disciplines even though historical, ethnographic, and sociological analysis has documented the diversity of trans identifications (Meier & Labuski, 2013; Valentine, 2007). While developing the idea of "gender variance" and "gender diversity," some of the research published on this question continues to place the whole trans population under the umbrella term of "transgender" (Bockting, 2009), often proposing a unified representation of this population without including any gender and sex differences (Almeida, Lert, Berdougo, & Hazéra, 2008). Besides, some epidemiological studies are based on the evaluation of the prevalence of diagnosed GID and SRS, therefore giving less influence to other psychosocial and non-medical dimensions of trans identity (De Cuypere et al., 2007; Zucker & Lawrence, 2009) and neglecting individuals who do not define themselves as people with GID. As such, differences according to sex assigned at birth,[3] the plurality of gender identities or the diversity in transition pathways have not been the subject of sufficient scientific attention. However, taking the heterogeneity of this population into account has proved to be a fruitful perspective for the analysis of the phenomenon investigated in this survey.

Method

Participants

Mapping the Field: Identification of the Partners for the Survey

An ethnographic study was carried out in the trans population in France from 2004, in order to identify the main social networks and key informants that would be able to help us in the development, distribution, and collection of the questionnaire. On the basis of this ethnography and a theoretical model based on the diversity of the trans population (Ekins & King, 2006; Valentine, 2007), various trans associations, public hospital practitioners, and private practice practitioners (including psychiatrists, endocrinologists, surgeons, general practitioners, dermatologists, gynecologists, psychologists, and speech therapists) were approached and selected to be partners in the survey. We did not systematically explore other social spaces, such as bars and nightclubs, but the manager of a famous Parisian trans-friendly bar offered to make the questionnaire available to its clientele. The data collection, particularly concerning private health professionals, was carried out by intermediary key community informants based in the medical field.

Of the 21 trans organizations that were contacted, and who make up the majority of the French trans organizations community, 18 agreed to participate in the construction, distribution, and the collection of the questionnaire. Six hospital teams were requested to participate, including a Belgian team providing medical and surgical care to individuals living in France, and four (including the Belgian team) agreed to the collaboration. A list of 254 "trans-friendly" primary care physicians all over France was provided by one of our trans partners, known as the head of a trans support network. Of the 254 general and specialist practitioners who were contacted by mail by Inserm (including 65 whose addresses were incorrect or who were doctors that had stopped working), 57 agreed to participate in the project, i.e., to distribute the anonymous questionnaire to their patients. This represented an acceptance rate from private practitioners of 30.2 %. In the absence of a reference population enabling the establishment of representative criteria, this method of recruitment, which maintained a balance between community organizations and medical networks, ensured a diversity of trans profiles.

Procedure

Once validated by the study partners and the steering committee of the project, the questionnaire was distributed to trans individuals by the collaborating partners, on behalf of Inserm. We asked each of our partners to estimate the number of questionnaires that they would be able to distribute through their network and we provided them with this precise amount of questionnaires. The questionnaire, written in French, was self-administered and supplied with a stamped envelope to be addressed back to the research team. The mode of distribution was left to the different partners to decide; it was usually given out before or after consultations with health professionals and was actively made available to members of community organizations. The distribution phase took place between July and October 2010. At the end of this period, each partner was asked to specify exactly how many questionnaires they had actually distributed. As the questionnaire included a question enabling us to know from which type of partner each participant had received the questionnaire, it was possible to use this information to calculate the rate of distribution of the questionnaire

[3] In the designation of trans individuals based on sex assigned at birth, we use the generic terms male-to-female (MtF) and female-to-male (FtM). The term MtF refers to individuals who were assigned to the male sex at birth (natal males) and who are undergoing a gender transition. The term FtM refers to individuals assigned female at birth (natal female). It is important to remember that not all individuals necessarily identify themselves within the two categories "FtM" and "MtF." Some, who do not consider themselves to fall into a binary model of differences between the sexes, may even challenge this concept (Bockting, 1999).

as well as the response rate to it, according to the specific type of partner (associative or medical) from which it had been received.

Participants were not recruited through the Internet in order to improve the traceability of questionnaires and the reliability of the responses. Also, as this survey did not aim to establish the prevalence of GID, it did not use the diagnostic criteria of the DSM-IV-TR or the ICD-10 used in other studies to recruit individuals (Cohen-Kettenis & Gooren, 1999; De Cuypere et al., 2007; Fisher et al., 2013; Motmans, Meier, Ponnet, & T'Sjoen, 2012; Nieder et al., 2011; Zucker & Lawrence, 2009). The Institutional Review Board of Inserm approved the protocol of this survey, which aims to preserve the anonymity of the participants and to protect their rights.

Measures

Structure of the Questionnaire

The questionnaire consisted of 119 questions, divided into four sections: sociodemography; transition process and medical and psychological care; health and sexual health including HIV and sexually transmitted infections (STIs); and sexuality, including sexual behavior, sexual difficulties, opinions and attitudes towards sexuality.

The statistical analysis of the data consisted of a descriptive analysis with significance tests as well as logistic regression models. We first described the distribution of gender identification according to sex assigned at birth (i.e. natal sex). Then, we used chi square tests to evaluate if natal sex and gender identifications were associated with the sociodemographic characteristics of the participants and their medical process of transition. Chi square tests were also conducted in order to evaluate whether SRS (having had it or not) was associated with the feeling of having completed one's transition process. Finally, we performed a chi square test to evaluate whether the mode of recruitment of participants (by associations, public practitioners or private practitioners) was associated with their gender identification. Logistic models were conducted to evaluate whether natal sex was a predictor of: currently working, having been married/entered into a PACS,[4] being currently single or not, having at least one child, and having an education level equal or higher to the baccalaureate. Logistic models were adjusted for age because its distribution was different for MtF and FtM. Statistical significance was set at $p = .05$. All analyses were conducted using Stata 10.

Construction of Variables and Analysis

Gender Identification

A recent review of sociodemographic research in this field (Meier & Labuski, 2013) depicted the complexities of expressions used to define and endorse gender identifications and the limits of socially validated expressions. Recent epidemiological and demographic surveys have been carried out in European countries and were based on different strategies to determine self-attributed gender identifications. Motmans, de Biolley, and Debunne (2009) included a series of closed-ended questions in order to elicit responses concerning self-attributed gender identification. But in most cases, this survey did not use self-identification as an independent variable to analyze the items. Therefore, in that study, most of the variables were analyzed without including gender self-identification as a differentiating criterion. A British "Trans Mental Health Study" adopted a different perspective. A set of closed-ended questions were used to identify the potential expressions of gender identification on a 6 items scale. This set of questions was used "as it was felt that it might be possible that people who had clear binary identities may have different outcomes in terms of well-being, than those who had non-binary or fluid identities, or who were unsure of their identities" (McNeil, Bailey, Ellis, Morton, & Regan, 2012, p. 6). This study did not ask any questions regarding natal sex. It focused solely on self-gender identification to segment the sample. Finally, one French study did not include any segmentation of the sample according to natal sex or gender identification (Almeida et al., 2008).

Using Bockting's (2007, cited in Bockting, 2008) approach, we attempted to identify different gender identifications using an open-ended question, which was asked at the end of the questionnaire. While Bockting formulated his question with reference to the "transgender identity," we preferred to explore the diversity of "gender identifications" within a population already self-identifying as trans. The questionnaire included one open ended question, which had the objective to collect the subjective self-designations of gender identification and was formulated as follows: "In terms of gender identity, how would you describe yourself now?" This question elicited nearly 200 different responses, expressed by individuals "in their own words."[5]

These responses were analyzed qualitatively by the three members of the team and six categories of gender identification were constructed. First, we found the two conventional categories of sex/gender ("man" and "woman") that subscribe to a model of "gender dichotomy" (Bockting, 2008). The complete

[4] "PACS" (Pacte Civil de Solidarité) is the French civil union enabling same gender unions. At the time of the survey, marriage was not possible between same gender individuals and therefore the question of marriage refered only to different gender marriage.

[5] This method is often used in questionnaire surveys where we suspect that individuals may have definitions that do not fit into the dominant nosographic categories, particularly when it comes to women or gay men and lesbians. A similar work of analysis of the words used by participants to define their gender identity was developed by Kuper, Nussbaum, and Mustanski (2012).

identification to one or the other gender was expressed through responses such "woman," "completely woman," or "a man like any other." Two categories emerged in which individuals expressed that they identify with one or the other gender, at the same time as expressing a reference to the transition process or to a trans identification. The responses falling into this category included: "I'm a transidentified woman," "a trans man," "an FtM transsexual." We also found a category that made no reference to gender dichotomy and subscribed entirely to the category "trans," such as: "trans," "transgender" or "transsexual." Finally, some responses did not even mention the notion of "trans" and were grouped under the category "other." These "other" responses covered a wide range of self-identifications, from "a monster" to "an angel." The other studies mentioned above which proposed open-ended questions about trans identification obtained similar results.

Medical and Legal Steps in the Transition Process

In order to better understand the proportion of individuals who were undergoing a "complete sex reassignment," an indicator of the steps of the process of care was constructed, taking into account four steps: (1) the request of a certificate testifying a diagnosis of gender identity disorder from a psychiatrist, which is an obligatory step in order to receive care in public hospitals and coverage by medical insurance; (2) hormonal treatment; (3) genital surgery (sterilization and/or SRS); (4) the request for a change in civil status through a court. This indicator comprised five categories, the first corresponding to individuals who have undergone none of the aforementioned steps and the fifth to those who have completed the four steps.

Results

Rate of Diffusion and Response Rate

The total rate of distribution was 55.5 %, with 859 questionnaires distributed by our partners of the 1,547 sent out to them by the research team. As shown in Table 1, the rate of distribution was highest among public hospital practitioners, at 86.2 %, and was lower among community organizations than it was among health professionals as a group (41.7 and 64.6 % respectively). Overall, 381 questionnaires were returned to the research team by individuals that had received them, representing a response rate of 44.4 % of the questionnaires that were distributed. The response rates according to who the questionnaires were distributed by was the inverse relationship to the rate of distribution; the response rate was higher to questionnaires distributed by community organizations (41.5 %) than to those distributed by health professionals (35.4 %).

Table 1 Circulation rates by partners for sampling and response rate to the questionnaire

Recruitment intermediary	Questionnaires sent	Questionnaires distributed		Questionnaires received	
	n	n	Distribution rate (%)	n	Response rate (%)
Associations	747	342	41.7	142	41.5
Liberal practitioners	590	336	57.0	113	33.6
Public hospital practitioners	210	181	86.2	70	38.7
Total for practitioners	800	517	64.6	183	35.4
NR	_	–	–	56	_
Total	1,547	859	55.5	381	44.4

Table 2 Gender identification and sex assigned at birth (N = 358)

Gender identification	Sex assigned at birth			
	Female		Male	
	n	%	n	%
Woman	0	0.0	150	56.4
Man	52	56.5	4	1.5
Trans woman	1	1.1	64	24.1
Trans man	24	26.1	2	0.7
Trans	11	12	36	13.5
Other	4	4.3	10	3.8

Sex Assigned at Birth and Gender Identification

The ratio of male-to-female/female-to-male participants who replied was approximately 4:1, with MtF making up 73.8 % of the total number of participants and FtM 25.2 %. As shown in Table 2, the allocation of individuals to the categories of gender identification compiled from the responses to the questionnaire was similar for MtF and FtM. We observed that 56.4 % of MtF self-identified as "women" and 56.5 % of FtM self-identified as "men." Nearly a quarter of the total identified within the intermediary categories: 24.1 % of MtF defined themselves as "trans women" and 26.1 % of FtM as "trans men." Finally, 13.5 and 3.8 % of MtF identified as "trans" and "other" respectively. The corresponding figures among FtM were 12.0 and 4.3 %.

Gender Identification by Mode of Recruitment

The participants recruited by health professionals defined themselves more frequently as belonging to conventional binary gender categories. The percentage of those who self-identified within the gender dichotomy model as "men" or "women" was 64.9 % among those recruited by physicians while "trans

men" and "trans women" represented 31.0 % of the participants recruited by this group and the "trans" and "other" 4.1 %. Among those who were recruited by trans associations, the proportion of "men" and "women" was lower at 51.1 %, but that of "trans men" or "trans women" as well as "trans" or "other" was greater than the proportion among those recruited by health professionals, at 44.6 and 4.3 %, respectively ($p < .05$).

Sociodemographic Characteristics

As shown in Table 3, sociodemographic profiles of participants differed significantly according to sex assigned at birth. The average age for the total sample was 40.7 years. The average age among FtM was 30.8 and 6.2 % of this subgroup were not born in France. For 72.6 % of FtM, the highest level of education obtained was the French baccalaureate or a university degree. At the time of the study, 45.3 % of the FtM had a declared profession. Only 15.8 % of FtM had been married or had entered into a "PACS" and 8.4 % had had children. MtF were older than FtM, with an average age of 44.2 years. The proportion of MtF born outside of France was 16.5 %, a higher figure than among FtM. MtF tended to be educated to a lower level than FtM; 55.6 % had obtained the French baccalaureate or a university degree. More than half of the MtF were currently employed (53.0 %), a higher proportion than among FtM, but which was largely explained by the fact that there was a higher proportion of students among FtM. In terms of family and relationships, almost half (47.9 %) of MtF had in the past been married or entered into a PACS and a similar proportion (44.8 %) had had children. Finally, a lower proportion (59.8 %) of MtF than FtM was single at the time of the study (Tables 4, 5, 6).

Logistic models found no significant effect of sex assigned at birth on employment status (currently working or not) or current familial situation (being currently single or not). However, a significant association was found between sex assigned at birth and having been married or entered into a PACS in the past, having had children. MtF were more likely to have been married or have entered into a PACS (OR = 1.8, CI [0.9, 3.6], $p < .10$), and to have had children (OR = 3.3, CI [1.4, 7.7], $p < .01$) than FtM. MtF were more likely than the FtM to have had a heterosexual history prior to their transition. MtF were less likely to have obtained the French baccalaureate than FtMs (OR = 0.4 [0.2–0.7], $p < .01$).

Gender Transition According to Sex Assigned at Birth and Gender Identification

Overall, 86.9 % of the sample (86.6 % of FtM and 87.3 % of MtF) had consulted a psychiatrist in order to be diagnosed and

Table 3 Sociodemographic characteristics to sex assigned at birth

	Sex assigned at birth							
	Female		Male		Total		Chi square test	
	n	%	n	%	n	%	χ^2	p
Age (N = 368) (M, SD)	30.8 (9.3)		44.2 (12.4)		40.7 (13.1)			<.01
Birth country (N = 375)							6.3	<.05
France	90	93.8	233	83.5	323	86.1		
Other countries	6	6.2	46	16.5	52	13.9		
Level of education (N = 365)							13.0	<.01
Primary education or no education	4	4.2	33	12.2	37	10.1		
Youth training, technical school certificate	22	23.2	87	32.2	109	29.9		
Baccalaureate (general or technical)	22	23.2	32	11.9	54	14.8		
University diploma	47	49.4	118	43.7	165	45.2		
Professional status (N = 374)							38.7	<.01
Declared profession	43	45.3	148	53.0	191	51.1		
Job seeker, unemployed or undeclared profession	28	29.5	90	32.3	118	31.5		
Retired	1	1.0	29	10.4	30	8.0		
Student	23	24.2	12	4.3	35	9.4		
Having been married or entered into a PACS (N = 375)							30.5	<.01
Yes	15	15.8	134	47.9	149	39.7		
No	80	84.2	146	52.1	226	60.3		
Family situation (N = 371)[a]							31.8	<.01
Single	81	84.4	168	59.8	249	66.1		
Married or entered into a PACS	9	9.4	50	17.8	59	15.7		
Divorced	6	6.3	57	23.8	73	19.4		
Having children (N = 372)							40.8	<.01
Yes	8	8.4	124	44.8	132	35.5		
No	87	91.6	153	55.2	240	64.5		

[a] Multiple choice question

Table 4 Steps of transition by gender identification (N = 351)

Male sex assigned at birth (N = 260)								
Transition step	Gender identification							
	Woman		Trans woman		Trans or other		Chi square test	
	n	%	n	%	n	%	χ^2	p
0 step	6	4.0	2	3.2	4	8.7	11.3	<.05
1 or 2 steps	64	42.7	39	60.9	28	60.9		
3 or 4 steps	80	53.3	23	35.9	14	30.4		
Female sex assigned at birth (N = 91)								
Transition step	Gender identification							
	Man		Trans man		Trans or other		Chi square test	
	n	%	n	%	n	%	χ^2	p
0 step	2	3.9	1	4.2	5	33.3	17.4	<.01
1 or 2 steps	18	34.6	11	45.8	7	46.7		
3 or 4 steps	32	61.5	12	50.0	3	20.0		

Table 5 Having the feeling of having completed one's transition according to SRS (N = 373)

Having the feeling of having completed one's transition process	Having had sex reassignment surgery					
	No		Yes		Chi square test	
	n	%	n	%	χ^2	p
Yes	34	12.9	83	75.5	140.9	<.01
No	229	87.1	27	24.5		

had obtained certification of their "gender identity disorder." This percentage was similar for those taking hormones (85.3 % of the total, 78.1 % of FM and 88.3 % of MtF). However, these proportions were not found when looking at SRS. Overall, 29.4 % of individuals had undergone SRS (vaginoplasty, phalloplasty, metoidioplasty) and 22.1 % had undergone sterilization surgery (orchidectomy, vasectomy, hysterectomy). Among those having undergone neither sterilization surgery nor SRS, 69.4 % envisaged that they would do so in the future (74.1 % of FtM and 68.3 % of MtF, $p > .10$). The percentage of individuals having undergone neither surgical operation and not wishing to undergo them in the future was 30.6 %. MtF more often reported having undergone SRS than FtM (at 33.5 and 18.8 % respectively, $p < .01$). However, a greater proportion of FtM had undergone sterilization surgery (36.5 % compared to 17.4 % among MtF, $p < .01$) and 60.4 % of FtM had undergone mastectomy. Finally, overall, 46.3 % of participants had requested a change in civil status (50.0 % of FtM and 45.0 % of MtF, $p > .10$).

An individual's gender identification strongly influenced their process of care. A total of 53.3 % of those identifying as "women" and 61.5 % of those identifying as "men" underwent three or four of the steps that make up our indicator "step of transition". This compares to 35.9 % of "trans women" and 50.0 % of "trans men" who have done so, and 30.4 and 20 % of "trans and others," respectively, among MtF and FtM. Thus, the more the individuals self-identified within binary gender categories, the more steps toward the completion of the transition they had taken.

Table 6 Logistical regression analysis predicting sociodemographic characteristics with age and sex assigned at birth

	M1[a]		M2[b]		M3[c]		M4[d]		M5[e]	
	OR	95 % CI	OR	95 % CI	OR	95 % CI	OR	95 % CI	OR	95 % CI
Sex assigned at birth										
Female	1.0	[1.0,1.0]	1.0	[1.0,1.0]	1.0	[1.0,1.0]	1.0	[1.0,1.0]	1.0	[1.0,1.0]
Male	1.2	[0.7,2.0]	1.8*	[0.9,3.6]	0.7	[0.4,1.4]	3.3***	[1.4,7.7]	0.4***	[0.2,0.7]
Age (years)										
17–35	1.0	[1.0,1.0]	1.0	[1.0,1.0]	1.0	[1.0,1.0]	1.0	[1.0,1.0]	1.0	[1.0,1.0]
36–50	1.9**	[1.2,3.2]	5.8***	[2.9,11.5]	0.2***	[0.1,0.4]	8.9***	[3.8,20.9]	1.1	[0.7,1.8]
51–84	1.7*	[1.0,3.0]	24.3***	[11.4,52.1]	0.1***	[0.0,0.1]	30.5***	[12.5,74.2]	1.2	[0.7,2.0]
N	366		366		366		363		368	

OR odds ratios, *CI* confidence interval

* $p < .10$, ** $p < .05$, *** $p < .01$

[a] Model M1: predicted status is "currently working"

[b] Model M2: predicted status is "having been married or entered into a PACS"

[c] Model M3: predicted status is "being single"

[d] Model M4: predicted status is "having at least one child"

[e] Model M5: predicted status is "having an education level equal/higher to the baccalaureate"

If we look more specifically at the completion of SRS,[6] we found important differences according to the gender identification of the individual: 39.7 % of "women" have undergone SRS, compared to 29.2 % of "trans women" and only 8.3 % of those which were labeled as "trans." However, this difference was not apparent among FtM; 19.6 % of "men" and 19.2 % of "trans men" had undergone the surgery ($p > .10$). The distribution was relatively close in the case of sterilization surgery (hysterectomy, orchidectomy), with the exception of a gap between "men" (33.9 %) and "trans men" (50.0 %) ($p < .01$). A total of 22.5 % of "women" and 12.3 % of "trans women" had undergone sterilization surgery. Hence, a greater proportion of "trans men" than "men" had undergone sterilization surgery and the inverse was true among MtF. Gender self-identification therefore appears to be a more accurate indicator than sex assigned at birth for understanding the logics of the medical process of transition, particularly for surgical interventions.

Sex Reassignment Surgery and the Feeling of Having Completed One's Transition Process

Overall, less than one third of the sample had undergone SRS, despite the fact that this intervention seems to play an important role in the subjective evaluation of the completion of the transition process. Among those who had undergone SRS, 75.5 % felt that they had completed the transition process (66.7 % of FtM and 75.5 % of MtF) compared to only 12.9 % of those who had not undergone the surgery (11.5 % of FtM and 13.4 % of MtF).

Discussion

To recruit participants, this study relied on a diverse group of intermediaries who had contacts with trans individuals. This approach differs from other approaches in the field of "hard-to-reach" populations. It differs from both respondent-driven sampling (RDS) (Heckatorn, 1997), and snowball sampling (Biernacki and Waldorf, 1981) and Internet methods used in other surveys among trans communities. However, the use of this particular method may have introduced certain biases, although without access to a reference population, it is impossible to evaluate whether the sample was representative of the overall trans population in France. Trans individuals who are not part of community networks, as well as "transgender" or "gender variant" individuals who choose not to undergo their transition pathway through legal and medical procedures, may have been excluded by this sampling method. It was also decided not to recruit participants through the Internet in order to improve the traceability of questionnaires and reliability of responses. Thus, we were able to calculate a response rate on the basis of the total of the distributed questionnaires. By comparison, Motmans et al. (2009) used an estimation of the size of the trans population in Belgium and estimated their response rate at 17 %. In addition, we observed that the characteristics of the recruitment intermediary had an effect on the response rate. Participation in the study was higher when participants were recruited through community organizations than through health professionals. The distribution of gender identification varied according to the network from which the questionnaire was obtained. A greater proportion of "trans men" "trans women" and "trans" were recruited through community networks than through medical networks, suggesting that individuals who are part of community networks are more prone to endorse a gender self identification model based on gender diversity rather than on gender dichotomy (Bolin, 1994). This mode of recruitment and the networks through which participants are recruited undeniably influences the profiles of participants and especially in this case, their gender identification. The proportion in favor of MtF was similar to that found in the Belgian survey (Motmans et al., 2009) and was slightly higher than the one that has been observed in international studies based on the prevalence of GID, which have shown ratios of one FtM for every three MtF (Zucker & Lawrence, 2009).

The most important point to discuss here is that the results of this survey enabled us to update the model proposed by Benjamin and analyzed sociologically by Hausman and Hirschauer in the early 1990s. This model, which considered that the demand for SRS was a primary indicator of the "transsexual syndrome," was challenged by Ekins and King (2006) and Valentine (2007). The results of the present survey confirm this evolution, an evolution that has already been observed empirically and clinically in other countries (Cohen-Kettenis & Pfäfflin, 2010). In the context of contemporary France, although the definition and expression of trans identifications is largely related to medical and legal procedures, it is not based solely on the demand for SRS. Our results demonstrate that surgical procedures play an important role in individuals' feelings of having completed their transition process and that the more steps of transition have been carried out (including SRS) the more complete the individual feels the transition is. Nonetheless, we observed that only one third of the total sample had undergone interventions involving genital organs and that one third of those having undergone neither SRS nor sterilization did not wish to do so in the future. Mastectomy appeared as an important practice among FtM. Hormonal treatment, whether taken through a medical prescription or not, appeared as the more common practice for body modification undertaken by trans individuals. More than 80 % of the sample reported taking hormones and little variation was observed among subgroups (according to sex assigned at birth or gender identification). If there is a strong consensus on taking hormones, there is none anymore on the necessity of SRS within the trans population. This evolution

[6] Phalloplasty, metoidioplasty or vaginoplasty.

is also acknowledged in the DSM-5 (302.85), in which it is mentioned that gender dysphoria is defined by "A strong desire to be rid of one's primary and/or secondary sex characteristics because of a marked incongruence with one's experienced/expressed gender" (APA, 2013, p. 452). The important point in this sentence is the "and/or" which demonstrates that SRS is no longer necessary for gender change and that gender diversity is recognized besides the more binary expressions of gender identifications.

It is, therefore, important to understand which factors make a trans individual undergo SRS or not. For this purpose, it was necessary to distinguish between what, in hormonal-surgical treatment, qualifies as a medico-legal obligation and what can be qualified as voluntarily steps undertaken by individuals to express their gender identification. Cohen-Kettenis and Pfäfflin (2010) proposed two hypotheses to explain why trans individuals would choose not to undergo surgery: first, wariness towards surgical procedures and, second, "motivations associated with gender identity" (Cohen-Kettenis and Pfäfflin, 2010, p. 503). In France, it is crucial to understand that protocols regarding the medical management of transition pathways are based on a paradox. On the one hand, expert psychiatrists working in public hospitals and considered as "official teams," who are solely responsible for delivering the psychiatric certificate which grants access to hormonal and surgical treatment inside the health insurance system, present themselves as the regulators of a demand to modify one's body that they often consider as potentially excessive and inappropriate for clinical reasons. Therefore, the establishment of the differential diagnoses of GID (DSM-IV-TR), and "transsexualism" (ICD-10), aimed to distinguish between "true" and "false" transsexuals, that is to say, those who are eligible for medically-supervised treatment and those who may be psychotic or homosexual and thus excluded from GID treatment. On the other hand, there exists an administrative requirement in which SRS is compulsory in order to change one's civil status (Michels, 2008). This is notwithstanding the fact that not all individuals who want to change their civil status have the intention to undergo SRS. Given this paradox, it was necessary to examine the key indicators that would enable us to identify the subjective motivations linked to the process of care and notably, to undergoing SRS. Two principal criteria were used in our study: sex assigned at birth and gender identification.

Gender identification and sex assigned at birth appeared as strong determinants of whether one undergoes surgery or not, but in different ways. Gender identification revealed itself to be very pertinent in describing the different transition stages followed by the participants. Individuals who expressed a gender identification within the gender dichotomy model more frequently undergo the surgical processes involved in SRS. There is, therefore, a strong association between subjective gender identification and the medical process followed, which we can attribute to a subjective desire of these individuals to align their body with their desired gender identification. Sex assigned at birth also plays a role in terms of process of care. For genital surgery, the degree of technical development, access to surgical operations available in France, and legal requirements for changing civil status can all help to shed some light on the observation that FtM more frequently undergo sterilization and MtF more commonly undergo SRS. As phalloplasty is very rarely carried out in France since it is an intervention that is not as well developed as vaginoplasty, sterilization alone is required by the majority of courts in order to change the civil status from female to male, with no obligation for phalloplasty. However, vaginoplasty (which includes sterilization de facto) is always required for MtF. We assume, therefore, that differences in the undertaking of surgical interventions according to sex assigned at birth may be due to technical, medical, and administrative constraints, and that differences associated with gender identification reflect more personal and subjective motivations. In contrast to SRS, which in France remains one of the conditions of eligibility for a change in civil status, hormonal treatment is neither subject to regulatory pressures (except for obtaining of the certificate from a psychiatrist) nor obligatory. Hormonal treatment now seems to be the principal dimension of the trans pathway and may be related to subjective and personal motivations.

Although the primary focus of this study was to shed light on the diversity of the processes of care undertaken within the trans population, the results were not necessarily confined to that domain. On the contrary, we demonstrated that trans individuals are not reducible to their medical pathways. Sex assigned at birth appeared to be a significant variable at other levels than the process of care, particularly when looking at the sociodemographic structure of the trans population. Sociodemographic differences between MtF and FtM can be partly explained by an age effect, with FtM being on average younger than MtF. However, the effect of sex assigned at birth remains strong when looking at marital status (i.e., having been married or entered into a PACS in the past,) and having had children. MtF more frequently report a marital history (i.e., of marriage or PACS), heterosexual in most cases, as well as a reproductive history (i.e., having had children) prior to their commencement of the transition process. This is not the case for FtM who, in most cases, do not have a reproductive history. The explanation of this difference in age at transition between MtF and FtM, of the determinants of entering the transition process and of its implications requires further research, taking into account clinical, psychological, and sociological aspects (Connell, 2010; Hérault, 2010; Schrock & Reid, 2006).

The results of this survey demonstrated that trans identities are heterogeneous and not reducible to their medicalized follow-up, especially not to SRS, even if it may occupy an important place in many transition processes. This survey has enabled us to highlight a process that has been taking place over two decades and that is turning what was previously defined exclusively as a medico-psychiatric syndrome into a form of

personal and social identity. The inclusion of transsexualism in the field of human rights appears central in this evolution. Indeed, in 2009, the European Commissioner for Human Rights, Thomas Hammarberg, stated that medical and psychiatric treatments administered on a mandatory basis to individuals in situations of gender variance can represent an obstacle to their personal choices and development and sometimes even a violation of their human rights over their own bodies (Commissioner for Human Rights, 2009). We are, therefore, facing a paradoxical situation, where medical and legal institutions oscillate between imposing limits on access to care and obligating trans individuals to undergo a standardized course of transition based on a dual model of gender identity which does not respond to the need of all trans individuals.

Acknowledgments This research was supported by a grant from the Direction Générale de la Santé (French Ministry of Health). We would like to thank the community associations, the public and private health professionals, and all the individuals who responded to the questionnaire. We would equally like to thank Jonas le Bail for his contribution to the realization of the field work, as well as Henri Panjo, statistician at Inserm, for his work on the database. Finally, we would like to thank the members of the association Gender who have supported this project from the start and the anonymous reviewers of the Journal for their excellent comments, which helped to improve the quality of the article.

References

Almeida, W., Lert, F., Berdougo, F., & Hazéra, H. (2008). Transsexuel(le)s: Conditions et style de vie, santé perçue et comportements sexuels. Résultats d'une enquête exploratoire par Internet, 2007 [Transsexuals: living conditions and lifestyle, perceived health and sexual behavior. Results from an exploratory survey on the Internet, 2007]. *Bulletin Epidémiologique Hebdomadaire, 27*, 240–244.

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Arlington, VA: Author.

Benjamin, H. (1966). *The transsexual phenomenon*. New York: The Julian Press.

Biernacki, P., & Waldorf, D. (1981). Snowball sampling: Problems and techniques of chain referral sampling. *Sociological Methods and Research, 10*, 141–163.

Bockting, W. O. (2008). Psychotherapy and the real-life experience: From gender dichotomy to gender diversity. *Sexologies, 17*, 211–224.

Bockting, W. O. (2009). Transforming the paradigm of transgender health: A field in transition. *Sexual and Relationship Therapy, 24*, 103–107.

Bolin, A. (1994). Transcending and transgendering: Male-to-female transsexuals, dichotomy and diversity. In G. Herdt (Ed.), *Third sex, third gender: Beyond sexual dimorphism in culture and history* (pp. 447–485). New York: Zone Books.

Burke, M. (2011). Resisting pathology: GID and the contested terrain of diagnosis in the transgender rights movement. *Advances in Medical Sociology, 12*, 183–201.

Cohen-Kettenis, P. T., & Gooren, L. (1999). Transsexualism: A review of etiology, diagnosis and treatment. *Journal of Psychiatric Research, 46*, 315–333.

Cohen-Kettenis, P. T., & Pfäfflin, F. (2010). The DSM diagnostic criteria for gender identity disorder in adolescents and adults. *Archives of Sexual Behavior, 39*, 499–513.

Commissioner for Human Rights. (2009). *Issue paper on gender identity and human rights*. Strasbourg: Council of Europe.

Connell, R. (2010). Two cans of paint: A transsexual life story, with reflections on gender change and history. *Sexualities, 13*, 3–19.

Davidson, M. (2007). Seeking refuge under the umbrella: Inclusion, exclusion, and organizing within the category transgender. *Sexuality Research & Social Policy, 4*, 60–80.

De Cuypere, G., Van Hemelrijck, M., Michel, A., Carael, B., Heylens, G., Rubens, R., … Monstrey, S. (2007). Prevalence and demography of transsexualism in Belgium. *European Psychiatry, 22*, 137–141.

Drescher, J. (2010). Queer diagnoses: Parallels and contrasts in the history of homosexuality, gender variance, and the *Diagnostic and Statistical Manual*. *Archives of Sexual Behavior, 39*, 427–460.

Drescher, J. (2014). Controversies in gender diagnoses. *LGBT Health, 1*, 10–14.

Ekins, R., & King, D. (2006). *The transgender phenomenon*. London: Sage.

Feinberg, L. (1992). *Transgender liberation: A movement whose time has come*. New York: World View Forum.

Fisher, A., Bandini, E., Casale, H., Ferruccio, N., Meriggiola, M., Gualerzi, A., … Maggi, M. (2013). Sociodemographic and clinical features of gender identity disorder: An Italian multicentric evaluation. *Journal of Sexual Medicine, 10*, 408–419.

Giami, A. (2012). Médicalisation et dépathologisation des identités trans: Le poids des facteurs sociaux et économiques [Medicalization and depathologization of trans identities: the importance of social and economical factors]. *Sciences Sociales et Santé, 30*, 59–69.

Giami, A., & Le Bail, J. (2011). HIV infection and STI in the trans population: A critical review. *Revue d'Epidémiologie et Santé Publique, 59*, 259–268.

Green, R., & Money, J. (Eds.). (1969). *Transsexualism and sex reassignment*. Baltimore: Johns Hopkins Press.

Hamburger, C., Stürup, G. K., & Dahl, A. (1953). Transvestism: Hormonal, psychiatric and surgical treatment. *Journal of the American Medical Association, 152*, 391–396.

Hausman, B. (1992). Demanding subjectivity: Transsexualism, medicine, and the technologies of gender. *Journal of the History of Sexuality, 3*, 270–302.

Haute Autorité de Santé. (2009). *Situation actuelle et perspectives d'évolution de la prise en charge du transsexualisme en France* [Current situation and perspectives of evolution for the medical and juridical procedures regarding transsexualism in France]. Paris: Haute Autorité de Santé.

Hayet, Z., & Dahan, M. (2011). *Evaluation des conditions de prise en charge médicales et sociales des personnes trans et du transsexualisme*. Paris: Inspection Générale des Affaires Sociales.

Heckatorn, D. (1997). Respondent-driven sampling: A new approach to the study of hidden populations. *Social Problems, 44*, 174–199.

Hérault, L. (2010). Usages de la sexualité dans la clinique du transsexualisme [The use of sexuality in the medical care of transsexualism]. *L'Autre: Cliniques Culture et Sociétés, 11*, 278–291.

Hirschauer, S. (1997). The medicalization of gender migration. *International Journal of Trangenderism.* Retrieved July 7, 2013 from http://www.iiav.nl/ezines/web/ijt/97-03/numbers/symposion/ijtc0104.htm.

Jorgensen, C. (1967). *A personal autobiography*. San Francisco: Cleis Press.

Kuper, L. E., Nussbaum, R., & Mustanski, B. (2012). Exploring the diversity of gender and sexual orientation identities in an online sample of transgender individuals. *Journal of Sex Research, 49*, 244–254.

McNeil, J., Bailey, L., Ellis, S., Morton, J., & Regan, M. (2012). *Trans mental health and emotional wellbeing study 2012*. Edinburgh: The Scottish Transgender Alliance.

Meier, S. C., & Labuski, C. (2013). The demographics of the transgender population. In A. K. Baumle (Ed.), *International handbook on the demography of sexuality* (pp. 289–327). New York: Springer.

Meyerowitz, J. (2002). *How sex changed: A history of transsexuality in the United States*. Cambridge, MA: Harvard University Press.

Michels, D. (2008). Les procédures de changements de la mention de sexe à l'état civil. [Procedures for changing the sex of the civil status]. In A. Fine (Ed.), *Etats civils en questions Papiers, identités, sentiment de soi* (pp. 93–109). Paris: Editions du CTHS.

Motmans, J., de Biolley, I., & Debunne, S. (2009). *Etre transgenre en Belgique Un aperçu de la situation sociale et juridique des personnes transgenres* [Being transgender in Belgium. An overview of the social and juridical situation of transgender persons]. Bruxelles: Institut pour l'égalité des femmes et des hommes.

Motmans, J., Meier, P., Ponnet, K., & T'Sjoen, G. (2012). Female and male transgender quality of life: Socioeconomic and medical differences. *Journal of Sexual Medicine, 9*, 743–750.

Nieder, T. O., Herff, M., Cerwenka, S., Preuss, W. F., Cohen-Kettenis, P. T., De Cuypere, G., … Richter-Appelt, H. (2011). Age of onset and sexual orientation in transsexual males and females. *Journal of Sexual Medicine*, *8*, 783–791.

Schrock, D., & Reid, L. (2006). Transsexuals' sexual stories. *Archives of Sexual Behavior, 35*, 75–86.

Valentine, D. (2007). *Imagining transgender: An ethnography of a category*. Durham, NC: Duke University Press.

Ventura, M., & Schramm, F. R. (2009). Limites e possibilidades do execicio da autonomia nas praticas terapeuticas de modificaçao corporal e alteraçao da identidade sexual [Limits and possibilities to the exercise on autonomy in therapeutic practices of physical modification and sexual identity alteration]. *Physis, 19*, 65–93.

Zucker, K. J. (2010). Reports from the DSM-V Work Group on Sexual and Gender Identity Disorders [Editorial]. *Archives of Sexual Behavior, 39*, 217–220.

Zucker, K. J., & Lawrence, A. (2009). Epidemiology of gender identity disorder: Recommendations for the standards of care of the World Professional Association for Transgender Health. *International Journal of Trangenderism, 11*, 8–18.